

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Curve 4C

From Mile Post: 4.8

To Mile Post: 4.97

Work Description: Shift track 6' to west

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.17	\$68,106.06	
Excavation	C.Y.	\$220	395	\$86,900.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$155,006.06	
Design & Permits			25%	\$38,751.52	
Incidentals			23%	\$35,651.39	
RR Protection			30%	\$46,501.82	
Contingency			40%	\$62,002.42	
Total Cost for Work at Location =				\$337,913.21	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Curve 5

From Mile Post: 5.75

To Mile Post: 5.83

Work Description: shift track 1' to west

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.09	\$34,090.91	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$34,090.91	
Design & Permits			25%	\$8,522.73	
Incidentals			23%	\$7,840.91	
RR Protection			30%	\$10,227.27	
Contingency			40%	\$13,636.36	
Total Cost for Work at Location =				\$74,318.18	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Curve 6A

From Mile Post: 6.07

To Mile Post: 6.24

Work Description: shift track 2' to west including new crossing at Kent Rd.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.17	\$0.00	
Realign track	mile	\$400,000		\$68,863.64	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000	1	\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$250,000.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation		L.S.	\$0	\$0.00	
Subtotal Cost for Work at Location =				\$318,863.64	
Design & Permits			25%	\$79,715.91	
Incidentals			23%	\$73,338.64	
RR Protection			30%	\$95,659.09	
Contingency			40%	\$127,545.45	
Total Cost for Work at Location =				\$695,122.73	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Cuver 6B

From Mile Post: 6.53

To Mile Post: 6.68

Work Description: shift track 3' to east, impacts UG bridge 6.64

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.15	\$61,060.61	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	510	\$96,900.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500	1300	\$3,250,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	800	\$200,000.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$3,607,960.61	
Design & Permits				25%	\$901,990.15
Incidentals				23%	\$829,830.94
RR Protection				30%	\$1,082,388.18
Contingency				40%	\$1,443,184.24
Total Cost for Work at Location =				\$7,865,354.12	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Curves 7E & 8

From Mile Post: 7.71

To Mile Post: 8.47

Work Description: shift track 8' to west at curve 7E and 1' east at curve 8 and between curves. Requires a wider opening under the OH bridge 7.87 and lengthening approach circuits for Cannon Rd.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.76	\$303,257.58	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	50	\$9,500.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600	3360	\$2,016,000.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	2	\$30,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$2,358,757.58	
Design & Permits				25%	\$589,689.39
Incidentals				23%	\$542,514.24
RR Protection				30%	\$707,627.27
Contingency				40%	\$943,503.03
Total Cost for Work at Location =				\$5,142,091.52	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Curve 9C

From Mile Post: 9.53

To Mile Post: 9.84

Work Description: New track alignment requires lengthening approach circuits at Honey Hill & Seely Rds.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.31	\$341,000.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	1265	\$240,350.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	1700	\$425,000.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	4	\$60,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100	1700	\$170,000.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.5	\$250,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,486,350.00	
Design & Permits			25%	\$371,587.50	
Incidentals			23%	\$341,860.50	
RR Protection			30%	\$445,905.00	
Contingency			40%	\$594,540.00	
Total Cost for Work at Location =				\$3,240,243.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Curves 10B & 11A

From Mile Post: 11

To Mile Post: 11.47

Work Description: new track alignment

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.49	\$539,000.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220	3935	\$865,700.00	
Fill	C.Y.	\$190	6155	\$1,169,450.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500	612	\$1,530,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140	13820	\$1,934,800.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	1000	\$250,000.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100	1000	\$100,000.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.14	\$70,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$6,458,950.00	
Design & Permits			25%	\$1,614,737.50	
Incidentals			23%	\$1,485,558.50	
RR Protection			30%	\$1,937,685.00	
Contingency			40%	\$2,583,580.00	
Total Cost for Work at Location =				\$14,080,511.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Curve 12A

From Mile Post: 12.21

To Mile Post: 12.33

Work Description: New track alignment, lengthening approach circuits for N. Main St., Portland Ave (NB), and Depot Rd. (NB) are required

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.12	\$133,125.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220	330	\$72,600.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	4	\$60,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$265,725.00	
Design & Permits			25%	\$66,431.25	
Incidentals			23%	\$61,116.75	
RR Protection			30%	\$79,717.50	
Contingency			40%	\$106,290.00	
Total Cost for Work at Location =				\$579,280.50	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Wil/Ridg
Location: Curve 12B
From Mile Post: 12.42
To Mile Post: 12.57
Work Description: shift track 8' east, relocation of Portland Ave required

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.15	\$59,621.21	
Excavation	C.Y.	\$220	615	\$135,300.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140	3220	\$450,800.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400	400	\$160,000.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.34	\$170,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$975,721.21	
Design & Permits			25%	\$243,930.30	
Incidentals			23%	\$224,415.88	
RR Protection			30%	\$292,716.36	
Contingency			40%	\$390,288.48	
Total Cost for Work at Location =				\$2,127,072.24	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curve 13B

From Mile Post: 13.25

To Mile Post: 13.4

Work Description: new track alignment

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.15	\$165,833.33	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220	1595	\$350,900.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140	3924	\$549,360.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	800	\$200,000.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100	800	\$80,000.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,346,093.33	
Design & Permits				25%	\$336,523.33
Incidentals				23%	\$309,601.47
RR Protection				30%	\$403,828.00
Contingency				40%	\$538,437.33
Total Cost for Work at Location =				\$2,934,483.47	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curve 13C

From Mile Post: 13.46

To Mile Post: 13.59

Work Description: shift track 8' to west

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.12	\$48,484.85	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	175	\$33,250.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$81,734.85	
Design & Permits			25%	\$20,433.71	
Incidentals			23%	\$18,799.02	
RR Protection			30%	\$24,520.45	
Contingency			40%	\$32,693.94	
Total Cost for Work at Location =				\$178,181.97	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curve 13D

From Mile Post: 13.63

To Mile Post: 13.7

Work Description: shift track 1' east

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.06	\$25,757.58	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$25,757.58	
Design & Permits			25%	\$6,439.39	
Incidentals			23%	\$5,924.24	
RR Protection			30%	\$7,727.27	
Contingency			40%	\$10,303.03	
Total Cost for Work at Location =				\$56,151.52	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curve 14 A

From Mile Post: 13.97

To Mile Post: 14.1

Work Description: New track alignment

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.13	\$139,375.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220	2145	\$471,900.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140	4305	\$602,700.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	700	\$175,000.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,388,975.00	
Design & Permits			25%	\$347,243.75	
Incidentals			23%	\$319,464.25	
RR Protection			30%	\$416,692.50	
Contingency			40%	\$555,590.00	
Total Cost for Work at Location =				\$3,027,965.50	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curves 14B-D & 15A

From Mile Post: 14.42

To Mile Post: 15.14

Work Description: New track alignment

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.90	\$989,375.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220	1535	\$337,700.00	
Fill	C.Y.	\$190	3630	\$689,700.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500	1040	\$2,600,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140	4225	\$591,500.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	1000	\$250,000.00	
New at grade crossing	each	\$250,000	1	\$250,000.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.09	\$45,000.00	
Construction Access	each	\$25,000	1	\$25,000.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$5,778,275.00	
Design & Permits			25%	\$1,444,568.75	
Incidentals			23%	\$1,329,003.25	
RR Protection			30%	\$1,733,482.50	
Contingency			40%	\$2,311,310.00	
Total Cost for Work at Location =				\$12,596,639.50	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curves 15B & C

From Mile Post: 15.26

To Mile Post: 15.77

Work Description: New track alignment

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.51	\$564,583.33	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	3335	\$633,650.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	2000	\$500,000.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$1,698,233.33	
Design & Permits			25%	\$424,558.33	
Incidentals			23%	\$390,593.67	
RR Protection			30%	\$509,470.00	
Contingency			40%	\$679,293.33	
Total Cost for Work at Location =				\$3,702,148.67	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curves 16A & B

From Mile Post: 16.58

To Mile Post: 16.89

Work Description: new track alignment, relocation of local road, and lengthening of NB approach circuit for Long Ridge Rd.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.32	\$347,916.67	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220	2645	\$581,900.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400	1250	\$500,000.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.39	\$195,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,639,816.67	
Design & Permits				25%	\$409,954.17
Incidentals				23%	\$377,157.83
RR Protection				30%	\$491,945.00
Contingency				40%	\$655,926.67
Total Cost for Work at Location =				\$3,574,800.33	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curve 17A

From Mile Post: 17.25

To Mile Post: 17.45

Work Description: shift track 6' to west, requires lengthening SB approach circuit for Long Ridge Rd.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.10	\$110,000.00	
Realign track	mile	\$400,000	0.10	\$40,000.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	165	\$31,350.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$196,350.00	
Design & Permits			25%	\$49,087.50	
Incidentals			23%	\$45,160.50	
RR Protection			30%	\$58,905.00	
Contingency			40%	\$78,540.00	
Total Cost for Work at Location =				\$428,043.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curve 17B

From Mile Post: 17.57

To Mile Post: 17.72

Work Description: new track alignment

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.15	\$165,000.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220	825	\$181,500.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250	800	\$200,000.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$546,500.00	
Design & Permits			25%	\$136,625.00	
Incidentals			23%	\$125,695.00	
RR Protection			30%	\$163,950.00	
Contingency			40%	\$218,600.00	
Total Cost for Work at Location =				\$1,191,370.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Curve 17C

From Mile Post: 17.83

To Mile Post: 18.01

Work Description: New track alignment

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.18	\$195,625.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$195,625.00	
Design & Permits			25%	\$48,906.25	
Incidentals			23%	\$44,993.75	
RR Protection			30%	\$58,687.50	
Contingency			40%	\$78,250.00	
Total Cost for Work at Location =				\$426,462.50	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Bethel

Location: Curve 19A

From Mile Post: 19.07

To Mile Post: 19.18

Work Description: Shift track 4' to west

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000	0.11	\$43,181.82	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$43,181.82	
Design & Permits			25%	\$10,795.45	
Incidentals			23%	\$9,931.82	
RR Protection			30%	\$12,954.55	
Contingency			40%	\$17,272.73	
Total Cost for Work at Location =				\$94,136.36	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Maybrook Line

From Mile Post: 77.4

To Mile Post: 80

Work Description: Replace the track structure on the Maybrook Main and Tilcon Runner including 3 crossovers at Danbury Yard, 2 crossovers at Berkshire Junction, and turnouts at MP 78.1 and 79.2 on the runner.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	5.20	\$5,720,000.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000	10	\$1,000,000.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$6,720,000.00	
Design & Permits			25%	\$1,680,000.00	
Incidentals			23%	\$1,545,600.00	
RR Protection			30%	\$2,016,000.00	
Contingency			40%	\$2,688,000.00	
Total Cost for Work at Location =				\$14,649,600.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Berkshire Line

From Mile Post: 0

To Mile Post: 0.31

Work Description: Replace portion of Berkshire Line in Danbury including turnout at Stearns siding

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.31	\$341,000.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000	1	\$100,000.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$441,000.00	
Design & Permits			25%	\$110,250.00	
Incidentals			23%	\$101,430.00	
RR Protection			30%	\$132,300.00	
Contingency			40%	\$176,400.00	
Total Cost for Work at Location =				\$961,380.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Brookfield

Location: Berkshire Line

From Mile Post: 0.31

To Mile Post: 5.9

Work Description: Work Description: Replace portion of Berkshire Line in Brookfield including turnout at MP 1.1 and realignment of Curves 1 A and 1B

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	5.60	\$6,160,000.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	8530	\$1,620,700.00	
Install turnout	each	\$100,000	1	\$100,000.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$7,880,700.00	
Design & Permits			25%	\$1,970,175.00	
Incidentals			23%	\$1,812,561.00	
RR Protection			30%	\$2,364,210.00	
Contingency			40%	\$3,152,280.00	
Total Cost for Work at Location =				\$17,179,926.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: New Milford

Location: Berkshire Line

From Mile Post: 6.07

To Mile Post: 12.2

Work Description: Work Description: Replace portion of Berkshire Line in New Milford (6.13 miles) including turnouts (3) at ACH Foods and Kimberly Clark

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	6.13	\$6,742,916.67	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000	3	\$300,000.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$7,042,916.67	
Design & Permits			25%	\$1,760,729.17	
Incidentals			23%	\$1,619,870.83	
RR Protection			30%	\$2,112,875.00	
Contingency			40%	\$2,817,166.67	
Total Cost for Work at Location =				\$15,353,558.33	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: Danbury Branch

From Mile Post: 0

To Mile Post: 4.62

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds, RTU house and wayside substation in Norwalk

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	4.77	\$4,765,719.70	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000	1	\$500,000.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.58	\$290,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$9,555,719.70	
Design & Permits			25%	\$2,388,929.92	
Incidentals			23%	\$2,197,815.53	
RR Protection			30%	\$2,866,715.91	
Contingency			40%	\$3,822,287.88	
Total Cost for Work at Location =				\$20,831,468.94	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Danbury Branch

From Mile Post: 4.62 & 12.11

To Mile Post: 11.63 & 12.43

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds, and wayside substation in Wilton (in two sections)

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	7.33	\$7,330,000.00	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$11,330,000.00	
Design & Permits			25%	\$2,832,500.00	
Incidentals			23%	\$2,605,900.00	
RR Protection			30%	\$3,399,000.00	
Contingency			40%	\$4,532,000.00	
Total Cost for Work at Location =				\$24,699,400.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: s/o Wilton Station

From Mile Post: 4.6

To Mile Post: 7.4

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds and wayside substation in Wilton from the Norwalk/Wilton townline to Wilton Station

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	2.80	\$2,800,000.00	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$6,800,000.00	
Design & Permits			25%	\$1,700,000.00	
Incidentals			23%	\$1,564,000.00	
RR Protection			30%	\$2,040,000.00	
Contingency			40%	\$2,720,000.00	
Total Cost for Work at Location =				\$14,824,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Danbury Branch

From Mile Post: 11.63 & 13.19

To Mile Post: 12.11 & 18.05

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds and wayside and supply substations in Redding (in two sections)

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	5.34	\$5,340,000.00	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000	1	\$6,000,000.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$200,000	1.6	\$320,000.00	
Construction Access	each	\$25,000	1	\$25,000.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$15,685,000.00	
Design & Permits			25%	\$3,921,250.00	
Incidentals			23%	\$3,607,550.00	
RR Protection			30%	\$4,705,500.00	
Contingency			40%	\$6,274,000.00	
Total Cost for Work at Location =				\$34,193,300.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Ridgefield

Location: Danbury Branch

From Mile Post: 12.43

To Mile Post: 13.19

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds, and wayside substation in Ridgefield

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	0.76	\$760,000.00	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$4,760,000.00	
Design & Permits			25%	\$1,190,000.00	
Incidentals			23%	\$1,094,800.00	
RR Protection			30%	\$1,428,000.00	
Contingency			40%	\$1,904,000.00	
Total Cost for Work at Location =				\$10,376,800.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Bethel

Location: Danbury Branch

From Mile Post: 18.05

To Mile Post: 21.4

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds, and RTU house in Bethel

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	3.35	\$3,350,000.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000	1	\$500,000.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$3,850,000.00	
Design & Permits			25%	\$962,500.00	
Incidentals			23%	\$885,500.00	
RR Protection			30%	\$1,155,000.00	
Contingency			40%	\$1,540,000.00	
Total Cost for Work at Location =				\$8,393,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Danbury Branch

From Mile Post: 21.4

To Mile Post: 23.9

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds, and wayside substation in Danbury. NOTE: Beyond MP 23.9 included in Danbury yard cost

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	3.20	\$3,200,000.00	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$7,200,000.00	
Design & Permits					
Incidentals			25%	\$1,800,000.00	
RR Protection			23%	\$1,656,000.00	
Contingency			30%	\$2,160,000.00	
			40%	\$2,880,000.00	
Total Cost for Work at Location =				\$15,696,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Maybrook & Berkshire

From Mile Post: 77.4

To Mile Post: 0.31

Work Description: Install overhead traction power system including support structures, catenary, related wires, and impedance bonds in Danbury on HRR lines. Requires raising White St and two I-84 overhead bridges.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	5.60	\$5,600,000.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600	35429	\$21,257,400.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400	400	\$160,000.00	
Relocate/raise I-84	L.F.	\$3,000	2000	\$6,000,000.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$33,017,400.00	
Design & Permits			25%	\$8,254,350.00	
Incidentals			23%	\$7,594,002.00	
RR Protection			30%	\$9,905,220.00	
Contingency			40%	\$13,206,960.00	
Total Cost for Work at Location =				\$71,977,932.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Brookfield

Location: Berkshire Line

From Mile Post: 0.31

To Mile Post: 6.07

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds, and wayside substation in Brookfield on Berkshire line. Requires raising Silvermine Road and Route 25 overhead bridges.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	5.76	\$5,759,469.70	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600	6338	\$3,802,800.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400	200	\$80,000.00	
Relocate/raise Route 25	L.F.	\$600	325	\$195,000.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$13,837,269.70	
Design & Permits			25%	\$3,459,317.42	
Incidentals			23%	\$3,182,572.03	
RR Protection			30%	\$4,151,180.91	
Contingency			40%	\$5,534,907.88	
Total Cost for Work at Location =				\$30,165,247.94	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: New Milford

Location: Berkshire Line

From Mile Post: 6.07

To Mile Post: 12.2

Work Description: Install overhead traction power system including support structures, catenary, related wires, impedance bonds, wayside and supply substations in New Milford on Berkshire Line. Requires raising Old Pumpkin Hill Road and Erickson Road overhead bridges.

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	6.13	\$6,129,924.24	
Wayside substation	each	\$4,000,000	1	\$4,000,000.00	
Supply substation	each	\$6,000,000	1	\$6,000,000.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600	6252	\$3,751,200.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400	950	\$380,000.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$20,261,124.24	
Design & Permits			25%	\$5,065,281.06	
Incidentals			23%	\$4,660,058.58	
RR Protection			30%	\$6,078,337.27	
Contingency			40%	\$8,104,449.70	
Total Cost for Work at Location =				\$44,169,250.85	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: Ann St.

From Mile Post: 0.19

To Mile Post: -

Work Description: Replace 2 track UG Bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	3540	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$8,850,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$8,850,000.00	
Design & Permits					
Incidentals			25%	\$2,212,500.00	
RR Protection			23%	\$2,035,500.00	
Contingency			30%	\$2,655,000.00	
			40%	\$3,540,000.00	
Total Cost for Work at Location =				\$19,293,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Brook

From Mile Post: 5.12

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	306	\$765,000.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$765,000.00	
Design & Permits			25%	\$191,250.00	
Incidentals			23%	\$175,950.00	
RR Protection			30%	\$229,500.00	
Contingency			40%	\$306,000.00	
Total Cost for Work at Location =				\$1,667,700.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Wilton
Location: Stream
From Mile Post: 6.43
To Mile Post: -
Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	756	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$1,890,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$1,890,000.00	
Design & Permits			25%	\$472,500.00	
Incidentals			23%	\$434,700.00	
RR Protection			30%	\$567,000.00	
Contingency			40%	\$756,000.00	
Total Cost for Work at Location =				\$4,120,200.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Norwalk River

From Mile Post: 8.7

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	1240	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$3,100,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$3,100,000.00	
Design & Permits			25%	\$775,000.00	
Incidentals			23%	\$713,000.00	
RR Protection			30%	\$930,000.00	
Contingency			40%	\$1,240,000.00	
Total Cost for Work at Location =				\$6,758,000.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Wilton
Location: Norwalk River
From Mile Post: 9.42
To Mile Post: -
Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	1848	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$4,620,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$4,620,000.00	
Design & Permits			25%	\$1,155,000.00	
Incidentals			23%	\$1,062,600.00	
RR Protection			30%	\$1,386,000.00	
Contingency			40%	\$1,848,000.00	
Total Cost for Work at Location =				\$10,071,600.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Norwalk River

From Mile Post: 11.55

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	3586	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$8,965,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$8,965,000.00	
Design & Permits			25%	\$2,241,250.00	
Incidentals			23%	\$2,061,950.00	
RR Protection			30%	\$2,689,500.00	
Contingency			40%	\$3,586,000.00	
Total Cost for Work at Location =				\$19,543,700.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Wilton

Location: Factory Pond

From Mile Post: 12.17

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	1020	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$2,550,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$2,550,000.00	
Design & Permits			25%	\$637,500.00	
Incidentals			23%	\$586,500.00	
RR Protection			30%	\$765,000.00	
Contingency			40%	\$1,020,000.00	
Total Cost for Work at Location =				\$5,559,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Old Redding Rd.

From Mile Post: 14.16

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	1000	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$2,500,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$2,500,000.00	
Design & Permits			25%	\$625,000.00	
Incidentals			23%	\$575,000.00	
RR Protection			30%	\$750,000.00	
Contingency			40%	\$1,000,000.00	
Total Cost for Work at Location =				\$5,450,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Umpawaug Pond Brook

From Mile Post: 16.41

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	558	\$1,395,000.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,395,000.00	
Design & Permits			25%	\$348,750.00	
Incidentals			23%	\$320,850.00	
RR Protection			30%	\$418,500.00	
Contingency			40%	\$558,000.00	
Total Cost for Work at Location =				\$3,041,100.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Redding
Location: Saugatuck River
From Mile Post: 17.09
To Mile Post: -
Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	1020	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$2,550,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$2,550,000.00	
Design & Permits			25%	\$637,500.00	
Incidentals			23%	\$586,500.00	
RR Protection			30%	\$765,000.00	
Contingency			40%	\$1,020,000.00	
Total Cost for Work at Location =				\$5,559,000.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Bethel
Location: Route 53
From Mile Post: 19.64
To Mile Post: -
Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	860	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$2,150,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$2,150,000.00	
Design & Permits			25%	\$537,500.00	
Incidentals			23%	\$494,500.00	
RR Protection			30%	\$645,000.00	
Contingency			40%	\$860,000.00	
Total Cost for Work at Location =				\$4,687,000.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Bethel
Location: Stream
From Mile Post: 21.41
To Mile Post: -
Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	432	\$1,080,000.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$1,080,000.00	
Design & Permits			25%	\$270,000.00	
Incidentals			23%	\$248,400.00	
RR Protection			30%	\$324,000.00	
Contingency			40%	\$432,000.00	
Total Cost for Work at Location =				\$2,354,400.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Still River

From Mile Post: 22.39

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	3124	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$7,810,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$7,810,000.00	
Design & Permits			25%	\$1,952,500.00	
Incidentals			23%	\$1,796,300.00	
RR Protection			30%	\$2,343,000.00	
Contingency			40%	\$3,124,000.00	
Total Cost for Work at Location =				\$17,025,800.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Danbury
Location: Still River
From Mile Post: 79.65
To Mile Post: -
Work Description: Replace existing 2 track UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	8400	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$50,400,000.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$50,400,000.00	
Design & Permits			25%	\$12,600,000.00	
Incidentals			23%	\$11,592,000.00	
RR Protection			30%	\$15,120,000.00	
Contingency			40%	\$20,160,000.00	
Total Cost for Work at Location =				\$109,872,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Brookfield

Location: Route 133

From Mile Post: 2.51

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	940	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$2,350,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$2,350,000.00	
Design & Permits			25%	\$587,500.00	
Incidentals			23%	\$540,500.00	
RR Protection			30%	\$705,000.00	
Contingency			40%	\$940,000.00	
Total Cost for Work at Location =				\$5,123,000.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Brookfield
Location: Farm Pass
From Mile Post: 2.93
To Mile Post: -
Work Description: Fill in and remove existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	215	\$40,850.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$40,850.00	
Design & Permits			25%	\$10,212.50	
Incidentals			23%	\$9,395.50	
RR Protection			30%	\$12,255.00	
Contingency			40%	\$16,340.00	
Total Cost for Work at Location =				\$89,053.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Brookfield

Location: Old Middle Rd.

From Mile Post: 6.11

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	630	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$1,575,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$1,575,000.00	
Design & Permits			25%	\$393,750.00	
Incidentals			23%	\$362,250.00	
RR Protection			30%	\$472,500.00	
Contingency			40%	\$630,000.00	
Total Cost for Work at Location =				\$3,433,500.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Brookfield
Location: Still River
From Mile Post: 8.95
To Mile Post: -
Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	2184	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$5,460,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$5,460,000.00	
Design & Permits			25%	\$1,365,000.00	
Incidentals			23%	\$1,255,800.00	
RR Protection			30%	\$1,638,000.00	
Contingency			40%	\$2,184,000.00	
Total Cost for Work at Location =				\$11,902,800.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: New Milford

Location: Housatonic Ave.

From Mile Post: 11.66

To Mile Post: -

Work Description: Replace existing UG bridge

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500	738	\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$1,845,000.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,845,000.00	
Design & Permits			25%	\$461,250.00	
Incidentals			23%	\$424,350.00	
RR Protection			30%	\$553,500.00	
Contingency			40%	\$738,000.00	
Total Cost for Work at Location =				\$4,022,100.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: Cross St.

From Mile Post: 1.65

To Mile Post: -

Work Description: Lengthen SB approach circuit to increase speed to 40 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$15,000.00	
Design & Permits			25%	\$3,750.00	
Incidentals			23%	\$3,450.00	
RR Protection			30%	\$4,500.00	
Contingency			40%	\$6,000.00	
Total Cost for Work at Location =				\$32,700.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: Catherine St.

From Mile Post: 2.05

To Mile Post: -

Work Description: Lengthen approach circuits to increase speed to 40 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	2	\$30,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$30,000.00	
Design & Permits			25%	\$7,500.00	
Incidentals			23%	\$6,900.00	
RR Protection			30%	\$9,000.00	
Contingency			40%	\$12,000.00	
Total Cost for Work at Location =				\$65,400.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: New Cannan Ave.

From Mile Post: 2.23

To Mile Post: -

Work Description: Lengthen approach circuits to increase speed to 40 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	2	\$30,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$30,000.00	
Design & Permits			25%	\$7,500.00	
Incidentals			23%	\$6,900.00	
RR Protection			30%	\$9,000.00	
Contingency			40%	\$12,000.00	
Total Cost for Work at Location =				\$65,400.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: Broad St.

From Mile Post: 2.56

To Mile Post: -

Work Description: Lengthen approach circuits to increase speed to 40 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	2	\$30,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$30,000.00	
Design & Permits			25%	\$7,500.00	
Incidentals			23%	\$6,900.00	
RR Protection			30%	\$9,000.00	
Contingency			40%	\$12,000.00	
Total Cost for Work at Location =				\$65,400.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: Perry Ave.

From Mile Post: 2.88

To Mile Post: -

Work Description: Lengthen approach circuits to increase speed to 50 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	2	\$30,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$30,000.00	
Design & Permits			25%	\$7,500.00	
Incidentals			23%	\$6,900.00	
RR Protection			30%	\$9,000.00	
Contingency			40%	\$12,000.00	
Total Cost for Work at Location =				\$65,400.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Bethel

Location: Taylor Ave.

From Mile Post: 20.44

To Mile Post: -

Work Description: Lengthen NB approach circuits to allow 60 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$15,000.00	
Design & Permits			25%	\$3,750.00	
Incidentals			23%	\$3,450.00	
RR Protection			30%	\$4,500.00	
Contingency			40%	\$6,000.00	
Total Cost for Work at Location =				\$32,700.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Bethel

Location: South St.

From Mile Post: 20.52

To Mile Post: -

Work Description: Lengthen NB approach circuits to allow 60 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$15,000.00	
Design & Permits			25%	\$3,750.00	
Incidentals			23%	\$3,450.00	
RR Protection			30%	\$4,500.00	
Contingency			40%	\$6,000.00	
Total Cost for Work at Location =				\$32,700.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Bethel

Location: Greenwood Ave.

From Mile Post: 21.76

To Mile Post: -

Work Description: Lengthen NB approach circuits to allow 60 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$15,000.00	
Design & Permits			25%	\$3,750.00	
Incidentals			23%	\$3,450.00	
RR Protection			30%	\$4,500.00	
Contingency			40%	\$6,000.00	
Total Cost for Work at Location =				\$32,700.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Great Pasture Rd.

From Mile Post: 21.76

To Mile Post: -

Work Description: Lengthen NB approach circuits to allow 60 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	2	\$30,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$30,000.00	
Design & Permits			25%	\$7,500.00	
Incidentals			23%	\$6,900.00	
RR Protection			30%	\$9,000.00	
Contingency			40%	\$12,000.00	
Total Cost for Work at Location =				\$65,400.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Danbury
Location: Shelter Rock Rd.
From Mile Post: 22.21
To Mile Post: -
Work Description: Lengthen approach circuits to allow 60 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	2	\$30,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$30,000.00	
Design & Permits			25%	\$7,500.00	
Incidentals			23%	\$6,900.00	
RR Protection			30%	\$9,000.00	
Contingency			40%	\$12,000.00	
Total Cost for Work at Location =				\$65,400.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Danbury
Location: Triangle St.
From Mile Post: 22.57
To Mile Post: -
Work Description: Lengthen NB approach circuits to allow 60 mph

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$15,000.00	
Design & Permits			25%	\$3,750.00	
Incidentals			23%	\$3,450.00	
RR Protection			30%	\$4,500.00	
Contingency			40%	\$6,000.00	
Total Cost for Work at Location =				\$32,700.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Taylor St.

From Mile Post: 22.57

To Mile Post: -

Work Description: Lengthen NB approach circuits to allow 60 mph

Item	Unit	Unit Cost	Quantity	Amount	Comments
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000	1	\$15,000.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$15,000.00	
Design & Permits			25%	\$3,750.00	
Incidentals			23%	\$3,450.00	
RR Protection			30%	\$4,500.00	
Contingency			40%	\$6,000.00	
Total Cost for Work at Location =				\$32,700.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Maybrook & Berkshire

From Mile Post: 77.4

To Mile Post: 0.31

Work Description: Install signal system on Maybrook and Berkshire lines in Danbury. Also on 2 loop tracks at Danbury Yard MP 23.4 to 24.0 and renew Wildman St and Eagle Rd. at-grade crossings

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000	6.7	\$13,400,000.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000	2	\$500,000.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$13,900,000.00	
Design & Permits			25%	\$3,475,000.00	
Incidentals			23%	\$3,197,000.00	
RR Protection			30%	\$4,170,000.00	
Contingency			40%	\$5,560,000.00	
Total Cost for Work at Location =				\$30,302,000.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Brookfield
Location: Berkshire Line
From Mile Post: 0.31
To Mile Post: 6.07
Work Description: Install signal system on Berkshire Line in Brookfield

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000	5.76	\$11,520,000.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$11,520,000.00	
Design & Permits			25%	\$2,880,000.00	
Incidentals			23%	\$2,649,600.00	
RR Protection			30%	\$3,456,000.00	
Contingency			40%	\$4,608,000.00	
Total Cost for Work at Location =				\$25,113,600.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: New Milford

Location: Berkshire Line

From Mile Post: 6.07

To Mile Post: 12.2

Work Description: Install signal system on Berkshire Line in New Milford and grade crossings (5) at MP 8.65, 10.69, 10.81, 11.01, and 11.87

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000	6.13	\$12,260,000.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000	5	\$1,250,000.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$13,510,000.00	
Design & Permits			25%	\$3,377,500.00	
Incidentals			23%	\$3,107,300.00	
RR Protection			30%	\$4,053,000.00	
Contingency			40%	\$5,404,000.00	
Total Cost for Work at Location =				\$29,451,800.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Various
Location: HRRC
From Mile Post: 77.4
To Mile Post: 12.2
Work Description: Modifications to HRRC control center

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000	1	\$2,000,000.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$2,000,000.00	
Design & Permits			25%	\$500,000.00	
Incidentals			23%	\$460,000.00	
RR Protection			30%	\$600,000.00	
Contingency			40%	\$800,000.00	
Total Cost for Work at Location =				\$4,360,000.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Various
Location: HRRC Locomotives
From Mile Post: -
To Mile Post: -
Work Description: Install Cab signal equipment on HRRC locomotives

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000	5	\$500,000.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$500,000.00	
Design & Permits			25%	\$125,000.00	
Incidentals			23%	\$115,000.00	
RR Protection			30%	\$150,000.00	
Contingency			40%	\$200,000.00	
Total Cost for Work at Location =				\$1,090,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Norwalk

Location: Merritt 7

From Mile Post: 3.58

To Mile Post: -

Work Description: Improvements to Merritt 7 Station including High level platform, pedestrian overpass to development on the east side of the tracks, and expanded surface parking

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000	1	\$480,000.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
Stair & Elevator tower	each	\$1,000,000	1	\$1,000,000	
High level platform	L.F.	\$17,500	600	\$10,500,000.00	
Surface parking	space	\$10,000	200	\$2,000,000.00	
Sidewalk	S.F.	\$40	7760	\$310,400.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	1.6	\$800,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$15,090,400.00	
Design & Permits			25%	\$3,772,600.00	
Incidentals			23%	\$3,470,792.00	
RR Protection			30%	\$4,527,120.00	
Contingency			40%	\$6,036,160.00	
Total Cost for Work at Location =				\$32,897,072.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Wilton
Location: Cannondale
From Mile Post: 8.85
To Mile Post: -
Work Description: Lengthen Platform and add 50 parking spaces

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500	300	\$5,250,000.00	
Surface parking	space	\$10,000	50	\$500,000.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.57	\$285,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$6,035,000.00	
Design & Permits			25%	\$1,508,750.00	
Incidentals			23%	\$1,388,050.00	
RR Protection			30%	\$1,810,500.00	
Contingency			40%	\$2,414,000.00	
Total Cost for Work at Location =				\$13,156,300.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: Ridgefield
Location: Branchville
From Mile Post: 12.65
To Mile Post: -
Work Description: Revise access and increase parking

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600	2500	\$1,500,000.00	
Pedestrian Bridge (50')	each	\$400,000	1	\$400,000.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000	1	\$250,000.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000	50	\$500,000.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400	360	\$144,000.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	1.09	\$545,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$3,339,000.00	
Design & Permits			25%	\$834,750.00	
Incidentals			23%	\$767,970.00	
RR Protection			30%	\$1,001,700.00	
Contingency			40%	\$1,335,600.00	
Total Cost for Work at Location =				\$7,279,020.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Redding

Location: Redding

From Mile Post: 17.11

To Mile Post: -

Work Description: Add 75 parking spaces

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000	75	\$750,000.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.70	\$350,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,100,000.00	
Design & Permits			25%	\$275,000.00	
Incidentals			23%	\$253,000.00	
RR Protection			30%	\$330,000.00	
Contingency			40%	\$440,000.00	
Total Cost for Work at Location =				\$2,398,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Bethel

Location: Bethel

From Mile Post: 21

To Mile Post: -

Work Description: Add 160 parking spaces

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000	160	\$1,600,000.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,600,000.00	
Design & Permits			25%	\$400,000.00	
Incidentals			23%	\$368,000.00	
RR Protection			30%	\$480,000.00	
Contingency			40%	\$640,000.00	
Total Cost for Work at Location =				\$3,488,000.00	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Brookfield

Location: Brookfield

From Mile Post: 4.56

To Mile Post: -

Work Description: New platform, passing siding, parking and sidewalk to Route 202

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.54	\$597,083.33	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000	2	\$200,000.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000	1	\$480,000.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500	400	\$7,000,000.00	
Surface parking	space	\$10,000	100	\$1,000,000.00	
Sidewalk	S.F.	\$40	7620	\$304,800.00	
Driveway	S.Y.	\$100	35000	\$3,500,000.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	1.14	\$570,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation				\$0.00	
	L.S.	\$0			
Subtotal Cost for Work at Location =				\$13,651,883.33	
Design & Permits			25%	\$3,412,970.83	
Incidentals			23%	\$3,139,933.17	
RR Protection			30%	\$4,095,565.00	
Contingency			40%	\$5,460,753.33	
Total Cost for Work at Location =				\$29,761,105.67	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: New Milford

Location: New Milford

From Mile Post: 11.39

To Mile Post: -

Work Description: New platform with drop offs, passing siding, and parking

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	0.39	\$434,375.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000	2	\$200,000.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500	400	\$7,000,000.00	
Surface parking	space	\$10,000	110	\$1,100,000.00	
Sidewalk	S.F.	\$40	8500	\$340,000.00	
Driveway	S.Y.	\$100	27900	\$2,790,000.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	2.9	\$1,450,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$13,314,375.00	
Design & Permits			25%	\$3,328,593.75	
Incidentals			23%	\$3,062,306.25	
RR Protection			30%	\$3,994,312.50	
Contingency			40%	\$5,325,750.00	
Total Cost for Work at Location =				\$29,025,337.50	

Project: Danbury Branch Improvement Program

State Project Number: 302-008

Town: Danbury

Location: Existing Yard

From Mile Post: 23.8

To Mile Post: -

Work Description: Modifications at Danbury yard

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	1.22	\$1,343,333.33	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000	7	\$700,000.00	
Traction power					
Catenary system	mile	\$1,000,000	1.22	\$1,220,000.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000	0.5	\$1,000,000.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100	3200	\$320,000.00	
Yard					
Welfare building	S.F.	\$200	3000	\$600,000.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	0.92	\$460,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$5,643,333.33	
Design & Permits			25%	\$1,410,833.33	
Incidentals			23%	\$1,297,966.67	
RR Protection			30%	\$1,693,000.00	
Contingency			40%	\$2,257,333.33	
Total Cost for Work at Location =				\$12,302,466.67	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: New Milford
Location: n/o Aspetuck Rd.
From Mile Post: 12
To Mile Post: -
Work Description: New storage yard in New Milford

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000	1.32	\$1,452,000.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190	4100	\$779,000.00	
Install turnout	each	\$100,000	8	\$800,000.00	
Traction power					
Catenary system	mile	\$1,000,000		\$0.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000	0.5	\$1,000,000.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100	9500	\$950,000.00	
Yard					
Welfare building	S.F.	\$200	3000	\$600,000.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000	7.7	\$3,850,000.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$9,431,000.00	
Design & Permits			25%	\$2,357,750.00	
Incidentals			23%	\$2,169,130.00	
RR Protection			30%	\$2,829,300.00	
Contingency			40%	\$3,772,400.00	
Total Cost for Work at Location =				\$20,559,580.00	

Project: Danbury Branch Improvement Program
State Project Number: 302-008
Town: New Milford
Location: n/o Aspetuck Rd.
From Mile Post: 12
To Mile Post: -
Work Description: Electrification of new storage yard in New Milford

Item	Unit	Unit Cost	Quantity	Amount	
Track					
New track structure	mile	\$1,100,000		\$0.00	
Realign track	mile	\$400,000		\$0.00	
Excavation	C.Y.	\$220		\$0.00	
Fill	C.Y.	\$190		\$0.00	
Install turnout	each	\$100,000		\$0.00	
Traction power					
Catenary system	mile	\$1,000,000	1.32	\$1,320,000.00	
Wayside substation	each	\$4,000,000		\$0.00	
Supply substation	each	\$6,000,000		\$0.00	
RTU	each	\$500,000		\$0.00	
Structures					
U.G. Bridge (multi girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through girder)	S.F.	\$2,500		\$0.00	
U.G. Bridge (through truss)	S.F.	\$6,000		\$0.00	
O.H. Roadway Bridge	S.F.	\$600		\$0.00	
Pedestrian Bridge (50')	each	\$400,000		\$0.00	
Pedestrian Bridge (100')	each	\$480,000		\$0.00	
Retaining wall	S.F.	\$140		\$0.00	
C&S					
Install Signal system	mile	\$2,000,000		\$0.00	
Relocate buried cables	L.F.	\$250		\$0.00	
New at grade crossing	each	\$250,000		\$0.00	
New approach circuit	each	\$15,000		\$0.00	
Modify control center	each	\$2,000,000		\$0.00	
Install cab signals	each	\$100,000		\$0.00	
Stations					
High level platform	L.F.	\$17,500		\$0.00	
Surface parking	space	\$10,000		\$0.00	
Sidewalk	S.F.	\$40		\$0.00	
Driveway	S.Y.	\$100		\$0.00	
Yard					
Welfare building	S.F.	\$200		\$0.00	
Utilities					
Relocate aerial FO cable	L.F.	\$100		\$0.00	
Roadways					
Relocate/raise 2 lane rural road	L.F.	\$400		\$0.00	
Relocate/raise I-84	L.F.	\$3,000		\$0.00	
Property Acquisitions					
Taking	Acre	\$500,000		\$0.00	
Construction Access	each	\$25,000		\$0.00	
Environmental Mitigation					
	L.S.	\$0		\$0.00	
Subtotal Cost for Work at Location =				\$1,320,000.00	
Design & Permits			25%	\$330,000.00	
Incidentals			23%	\$303,600.00	
RR Protection			30%	\$396,000.00	
Contingency			40%	\$528,000.00	
Total Cost for Work at Location =				\$2,877,600.00	

DANBURY BRANCH IMPROVEMENT PROGRAM TASK 7

STATE PROJECT 302-008



ENGINEERING EVALUATION OF ALTERNATIVES

ENGINEERING EVALUATION OF ALTERNATIVES

For each Build Alternative, Table 7 itemizes major work elements and their estimated construction costs (2010\$). The costs shown do not include the percentage (118%) for engineering, railroad protection and contingency, nor do the costs equal the total estimate cost for an alternative.

The capital cost estimates, including preparation methodology were presented earlier in this report. Unit costs for the various proposed work elements were developed for the present year (2010), based on the CTDOT's Preliminary Cost Estimating Guidelines (January 2010), recent bids for various projects on the New Haven Line, and estimates prepared for upcoming projects.

A comparison of the total capital costs for the alternatives including the construction, engineering, miscellaneous, are shown in Table 8. Percentages have been applied to estimate the costs of engineering and railroad protection services and for unknowns (contingency) at the present conceptual level of engineering. The values are based on past experience with railroad projects and discussion with CTDOT.

Table 7: Comparison of Major Work Elements for the Build Alternatives

	Alternative C		Alternative D - Diesel		Alternative D - Electric		Alternative E	
Work Type	Quantity	Cost (\$000)	Quantity	Cost (\$000)	Quantity	Cost (\$000)	Quantity	Cost (\$000)
Track								
New track	4.5 miles	\$4,951	19.5 miles	\$21,447	19.5 miles	\$21,447	1.15 miles	\$1,261
Track shift	2.08 miles	\$831	0	0	0	0	0.78 miles	\$311
Turnouts	4 each	\$400	27 each	\$2,700	27 each	\$2,700	4 each	\$400
Cuts	69105 C.Y.	\$15,203	0	0	0	0	55480 C.Y.	\$12,206
Fills	22705 C.Y.	\$4,314	12845 C.Y.	\$2,441	12845 C.Y.	\$2,441	7930 C.Y.	\$1,507
Electrification								
Catenary	25 miles	\$24,746	NA	0	18.8 miles	\$18,809	8.07 miles	\$8,066
Substations	6 each	\$26,000	NA	0	3 each	\$14,000	2 each	\$8,000
RTUs	2 each	\$1,000	NA	0	0	0	1 each	\$500
Structures								
New/ Relocated UG Bridge	6 each	\$55,635	0	0	0	0	4	\$51,505
Rehabilitated UG Bridge	12 each	\$40,415	6 each	\$61,630	6	\$61,630	3	\$11,505
Pedestrian	2 each	\$880	1 each	\$480	1 each	\$480	1 each	\$480

Bridge								
Raise/Replace OH Bridge	1 each	\$3,516	0	0	7 each	\$35,626	0	0
Retaining Wall	45444 S.F.	\$6,362	0	0	0	0	15950 S.F.	\$2,233
C&S								
New Signal System	0.78 miles	\$1,560	19 miles	\$38,180	19 miles	\$38,180	1.33 miles	\$ 2,233
Relocate Signal System	9550 L.F.	\$2,388	0	0	0	0	1550 L.F.	\$388
New Grade Crossing	3 crossings	\$750	7 each	\$1,750	7 each	\$1,750	1 each	\$250
Control Ctr. modifications	yes	\$2,000	yes	\$2,000	yes	\$2,000	yes	\$2,000
Install Cab Signals	0	0	5 HRRC locos	\$500	5 HRRC locos	\$500	0	0
Stations								
New Stations	0	0	2 New Stations	\$23,985	2 New Stations	\$23,985	0	0
Station Upgrades	5 stations	\$22,730	0	0	0	0	1 New Station	\$12,810
Addl. Parking	535	Included	210	Included	210	Included	200	Included
Yard								
	Upgrade	Included	1 New	Included	1 New	Included	no	0
Utility Relocation								
	yes	\$2,593	0	0	0	0	yes	\$2,243
Property								
Acquisitions	9.89 acres	\$4,945	11.74 Acres	\$5,870	11.74 Acres	\$5,870	5.9 acres	\$2,950
Construction Easements	4 each	100	0	0	0	0	2	\$50

Table 8: Comparison of Infrastructure Estimated Capital Costs for the Build Alternatives

	Alternative C	Alternative D – Diesel	Alternative D – Electric	Alternative E
Construction cost	\$185,278,587	161,582,725	230,018,519	110,373,541
Design & Permits 25%	46,319,647	40,395,681	57,504,630	27,593,385
Incidentals 23%	42,614,075	37,164,027	52,904,259	25,385,914
RR Protection 30%	55,583,576	48,474,818	69,005,556	33,112,062
Contingency 40%	74,111,435	64,633,090	92,007,408	44,149,416
Total Capital Cost	403,907,320	352,250,341	501,440,371	240,614,319